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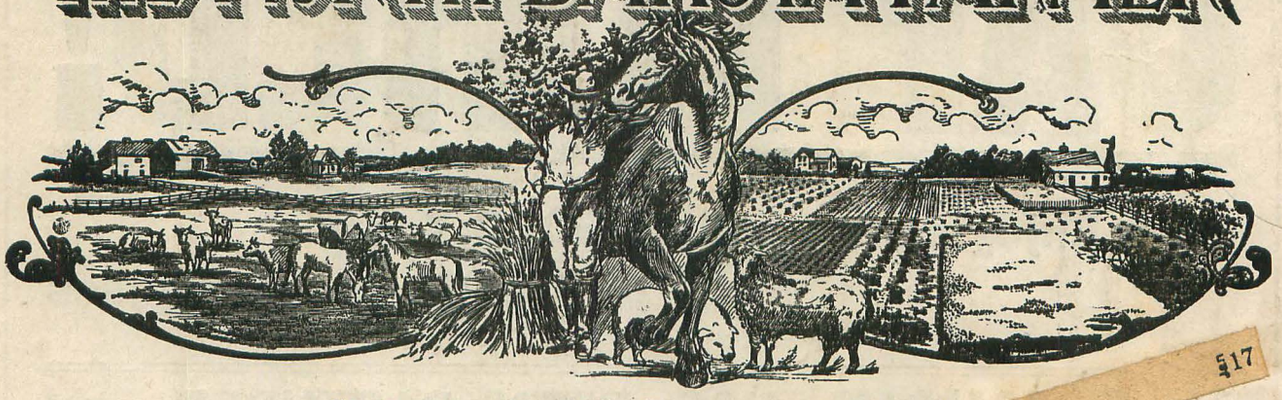
THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

$17
Alex Alin

Vol. 17, No. 2 Lisbon, North Dakota, August 15, 1915 50 Cents A Year

The Sheyenne River at Lisbon. In the distant background Bemmels Flouring Mills, the home of Cheer-Up products.

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THE NORTH DAKOTA FARMER

Vol. 17, No. 2 LISBON N. D., AUGUST 15, 1915 50 Cents a Year

Wayside Notes from a Rambler

By John H. Worst, Pres. N. D. A. C.

Travel is of educational value. One meets with people and sees things. Dull must be the man who, while touring a great country, cannot absorb much that will prove helpful as well as interesting.

As the train rushes along the conversation constantly recurs to agriculture and prospective crops. Why? do you ask? Because after all Old Mother Earth is in quite exelusive possession of those precious gifts which all men desire, but which she yields grudgingly or bountifully as the farmer knocks awkwardly or skilfully at her boundless storehouse of wealth —the soil.

No fairer fields of grain and no more promising prospects for an abundant harvest were seen anywhere between Fargo and the Pacific coast than in North Dakota, and even in our own commonwealth the conditions constantly improved from the Red River to the Montana line.

Some of the inter-mountain valleys, it is true, presented a fine prospect for big yields of grain, but they are so restricted in area that when compared with the North Dakota prairies they seem more like pretty gardens.

From the general drift of conversation one listens to on the train—not alone from farmers but from business men—one would think, owing to the general interest taken in agrcitulture, that more attention would be given to it in all the public schools as well as in the schools of agriculture. In other words a more general drift of education should be emphasized toward the fundamentals of that industry upon which the world so completely depends.

When viewed from extent of area, fertility of soil and ease of cultivation North Dakota farmers scarcely realize their natural advantages for the production of wealth. However, the North Dakota farmer in common with the fruit grower of the fertile mountain valleys has just reason to complain about the inadequate and even unfair methods employed in the distribution. They are compelled to take what is offered them which so often proves disappointing, especially to the fruit growers of the Pacific coast states. And until those who invest their money in land and agricultural implements, perform the arduous labor and take the risks, learn to practice co-operation in a large way and in accord with business principles they cannot expect to enjoy their fair proportion of profits.

Next to agriculture the European war came in for much earnest discussion and speculation as to its duration and the probable outcome. While at Medford, Oregon, we had the pleasure of listening to an address delivered by ex-secretary Bryan, on the subject of peace.

It was an evening out-door affair and an audience of approximately 5,000 listened attentively for an hour and a half to a very able and incisive presentation of his view of our government's relation to the warring nations of Europe.

By the way, the Rogue River Valley is one of the beauty sections of the west, possessing a fine soil and delightful climate, both winter and summer. Medford, the metropolis, is a thriving up-to-date city, as are also Central Point and Ashland, on either side of it. Many North Dakotans reside hereabouts; the number belonging to the North Dakota Society is said to be in the neighborhood of 150. Here, wife and I, met Ernest and Mrs. Schollander, formerly director of the Williston sub-experiment station.

The Schollanders have a beautiful pear and grape ranch and all together a delightful home with a fair crop of fruit in prospect. Tom Osgood and Frank Newman also live here, the former a successful civil engineer and rancher, while Newman ranks well as a lawyer. These, together with Watkins, are all of the A. C.

Besides these we were entertained by Steve A. Nye's family (formerly of Valley City) and met the McKays, Dukes, Glasgow, Swem the photographer, A. L. Loomis and others. Billy Budge also lives here, but is at present visiting in the east.

Former North Dakotans residing in the Rogue River Valley are mostly engaged in what they call "fruit ranching" and are doing well, tho the past two seasons have been abnormally dry and the present crop outlook is not very promising.

We were delightfully entertained by the Schollanders, Nyes and Newmans and burned up a good many gallons of gasoline at their expense.

The journey from Medford to San Francisco is a succession of magnificent views of mountain, valley, gorge and canyon until one is prompted to exclaim with him of old: "Great and marvelous are the works, Lord God Almighty; in wisdom hast thou made them all," and yet the wisdom of much of it is past finding out, but the centuries yet to be may convert these grand old mountains into fruitful fields, since the leveling and disintegrating forces of Nature never are at rest.

We arrived in San Francisco August 2 and intend to spend a week at the Panama Pacific Exposition.

We spent the day (Aug. 3rd) at the Exposition. It is too vast to write about. The North Dakota building and exhibit, however, are worthy of special notice by a loyal North Dakotan. Holbein as secretary is a distinct credit to the state. He is on the job every minute. Then John Freyberger, the artist, is worthy of special mention. His arrangement of North Dakota products, especially the prominence given to corn, entitles him to great credit. The building with its splendid products of the soil and mine most artistically arranged would seem commonplace without the services and motherly presence of Mrs. Freyberger

to minister to the wants of the ladies and boost for North Dakota. Taken altogether North Dakota made no mistake in her building and those placed in charge of its management, and the exhibits not only attract the visitors but are making friends for the state every day.

The Farm A School

By W. C. Palmer, Agri. Ed., N. D. A. C.

Practical men have long realized that solving the problems recurring every day on the farm and in business are of the highest educational value to youth. This is especially true if their activities are directed along right lines. Such a training is demonstrational and may be considered the highest form of practical education. Thru the agricultural agents such a training is being given to the boys and girls of their counties that care to take advantage of it. While their main work is on farm problems thru demonstrational work, yet they find time for organizing such activities as corn and pork production contests, short-courses, encampments, canning clubs and hikes for the young people of their counties. In these activities the boys and girls are securing a great deal of information but better yet they are learning the value of the farm home and the possibilities of the farm. The result is that practically every boy who has been in one of these activities, and the girls too, become attached to the farm. It has furnished them enough of a peep into the realm of agriculture to see some of its possibilities. It makes a sort of a game of it. As they begin to understand it and to apply the best that they have learned to the work, it becomes fascinating and the fascination is more than that of the game, as in this case the winner does more than win the game—it also brings financial gain.

In the Boys' Acre Yield Corn Contest the boys have learned that to bring the big yield several factors are important, as, kind of seed, preparation of the seed bed, time of planting and cultivation. Corn growing becomes something more than merely plowing, planting and harvesting. It becomes a game with rules to follow, a goal to reach and prize to win. The way the boys play the game is shown by the outcome of the contest. Yields of as high as 107 bushels per acre were secured—it was a surprise to everybody. These boys, urged on and advised by the county agents and the experiment station, demonstrated possibilities of corn production in the state, not only to the public but also to themselves.

The reports of these contests have gone broadcast over the country and are proving the means of demonstrating that North Dakota instead of being merely a blizzard swept and snow blockaded state, is adapted to the production of even such crops as corn.

The boys and girls who have been in the Pork Production Contest were induced to enter it by the county agents and the Experiment Station. Information was furnished them both by the county agents and the experiment station and the boys and girls did the rest. The results demonstrated that North Dakota is excelled by few states in pork production, and that fact is being advertised all over the United States and Canada and without any cost to North Dakota. This is driving another nail into the erroneous idea that North Dakota is not adapted to the growing of all kinds of crops.

In the Short-Courses the boys are given the most practical instructions by the county agents. In the week or two they are given lessons on many farm topics and in a way that they can make use of. The livestock instruction is usually given with live animals to demonstrate the points and types and for the boys to practice judging on. Last winter at Minot the boys in the short-course after having received their instruction in judging livestock and grains, judged the livestock and farm crops exhibited at the Minot Mid-Winter Fair.

SCENES ON THE WILLIAMS COUNTY HIKE OF 1915

First. Ready for the Start on the Hike.
Second. A Lesson in the Making of Rafters.
Third. Pitching Tents for the Night.

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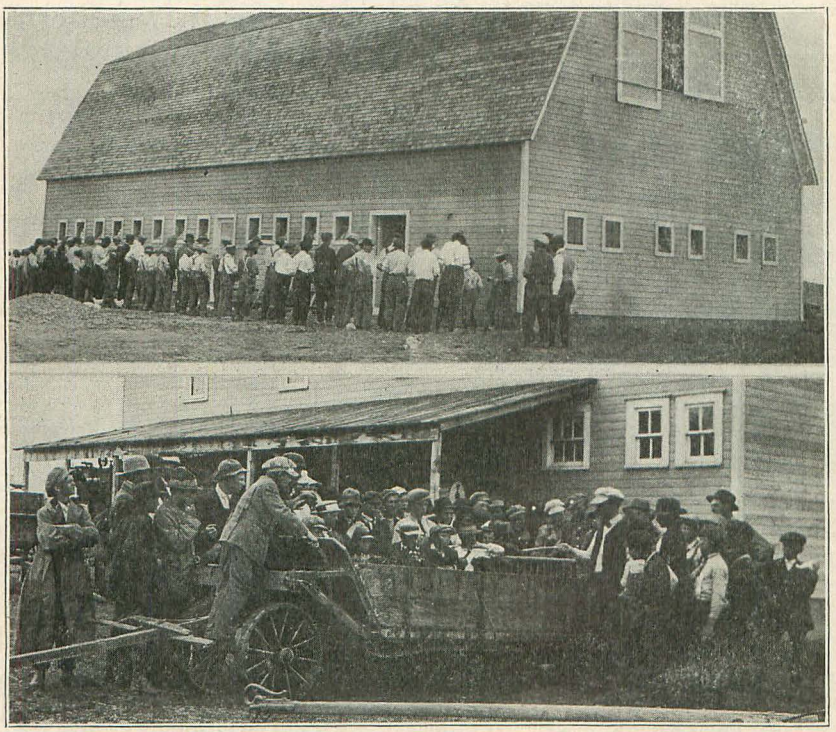
In the Encampment the boys are given instruction in farming and the girls in home economics. For instance, at Valley City this year 112 boys and 110 girls were encamped 17 days. To make this a real outing they lived in tents along a stream, where there was plenty of opportunity for swimming and other games, while the decipline was on the military plan. The boys and girls also had access to the Chautauqua that was in session at this time, giving them a chance to hear many of the big men and women of the country.

SCENES ON THE WILLIAMS COUNTY HIKE.



Upper. A Lesson in Barn Building.
Lower. A Study of the Manure Spreader.

On the Hike the boys are taken right to the farm and the instruction is based on the things as they are found in the fields, in the farmsteads, along the roads, fences and ditches. The great advantage of the hike from the standpoint of instruction is that the attention of the boys can be called to many things that they did not see before or else took for granted. The county agents are the best teachers on the hike as they are used to analyze the farm situation.

The Canning Club is another activity that is proving of much value. It has been put on in co-operation with the county agents, the county superintendents and the experiment station. The method of canning demonstrated for these clubs is so simple that anyone can easily can a good supply of fruits and vegetables for their use. In the states farther south where the canning clubs have been organized for several years, many of the boys and girls have made a good deal of money from canning fruits and vegetables for market. The equipment can be very simple—a wash boiler with a false bottom, a kettle for boiling water, a strainer for dipping the fruit or vegetables into the hot water, a stove and a paring knife is all that is needed. These are to be found in any home. The members of the canning clubs are canning a lot of fruits and vegetables that would otherwise go to waste and are thus preserving them for the time of the year when they are needed.

Most of these boys and girls would not get any instruction along these lines were it not for such work organized and promoted by the county agents. The big thing about these activities is that thru them the boys and girls are taught how to make more use of their lot in life right at home on the farm and with the things at hand. They are taught to make their labor and efforts bring greater returns, or how to make two blades of grass grow where but one grew before, and thru this the boys and girls learn the possibilities of the farm when the best kind of information directs the labor.

MAKING NON RESIDENT USERS PAY FOR FARMERS' ROADS

To build and maintain good roads for the benefit or pleasure of non-resident users is a proposition the farmer doesn't relish. Can he escape this burden and still have good roads?

If the experience of the taxpayers of Illinois is of any value there is a way out of the difficulty. According to statements made by Governor Dunne, in an address before the Chicago Association of Commerce, a road policy has been adopted in Illinois which discloses an extremely interesting situation.

It is the purpose of the Illinois Highway Commission to build all leading highways of the most durable materials it is possible to obtain in order that the maintenance factor may be eliminated. To improve the leading roads of the state will require, it is estimated, an expenditure of approximately $180,000,000. Of the roads not improved by the state none will be more than four and one-half miles from one of these state-aid roads. At first glance this would seem to be prohibitive in cost, so far as the farmer is concerned. It has developed upon inquiry, however, that the greater part of the construction cost, as well as maintenance, will fall upon corporations and municipalities, and that the farmer's share of the tax, taking the average, will be only 8 cents per acre per year until the bonds mature, which will be at the expiration of about twenty years.

If the estimates of the Highway Commission are correct in so far as they affect the farmer, a man owning 100 acres of land would pay only $8 per year for an improvement worth many times that sum. Instead of being a tax, hard roads of the type Illinois proposes to build will be of direct and immediate pecuniary profit to the farmer taxpayer. They are not an expenditure any more than is the money he puts into seed grain, or a herd of cattle from which he obtains profit. As a matter of fact, the pecuniary return to the farmer thru saving of time, cost of transportation and the losses incident to bad roads would be more immediate than in the case of a field of grain. Furthermore, the corporations and municipalities of the state will contribute at least 60 per cent of the money invested in the improved system of roads.

Turning to the state of New York, it is said that the farming sections pay only 15 per cent of the cost of the extended system of highway improvement now being made thru state aid. A New York farmer, who complained at a public meeting against "being ground to death by highway taxes," admitted that an improved road in his locality had brought him an offer of $500 more than he had previously considered his property to be worth. He owned a farm assessed at $3,000. He was very frank to state that the increased value of $500 was due entirely to this road. The increase in the value of his farm was sufficient to pay his share of the highway expense for 150 years. The interest on it at 6 per cent for 12 years would pay his proportion of the 50 years bond period. His individual burden amounted to less than one cent a day and would not go over that figure when the highway system is entirely completed. It is needless to say that the farmer in question was surprised and immediately revised his opinion as to the cost and value of permanent roads.

As stated, the Illinois project has to do with main or leading highways only, but it is interesting nevertheless to compare with this the situation in other states as it applies to road tax in general. For example, in one of the leading agricultural counties of Pennsylvania, the county of Bucks, road tax as levied by the townships runs from 4 to 10 mills on each dollar of assessed valuation, depending upon the extent of highway improvement. A fair average would be 6 mills. Thus a farmer owning 100 acres of land assessed at $100 per acre would pay $60 road tax each year. A great majority of the highways are of the most ordinary type, many of them almost impassable at certain seasons of the year. In contrast to this the Illinois farmer will always be in touch

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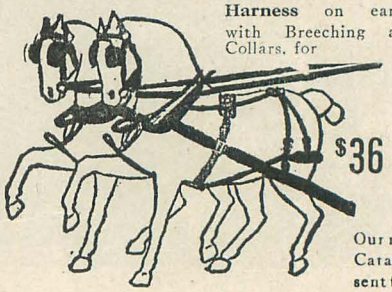

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with a fine system of durable highways, for the construction of which his contribution of 8 cents per acre will be a mere pittance.

But it is important to remember that the whole success and economy of the Illinois project comprehends the construction of roads of such durable type that they will be in good condition many years after the bonds mature. In other words, there is the purpose to practically eliminate the great burden of maintenance. If it were intended to build merely stone or macadam roads the project would be futile. Roads of this type are obsolete. In the States of Massachusetts, Connecticut, Rhode Island, New York and New Jersey, maintenance costs on macadam roads ran, in 1912, in excess of $800 per mile. The roads were rapidly destroyed by automobiles, and like the New York farmer quoted above, the taxpayers burdened with these excessive maintenance charges had reason to feel that they were being "ground to death."

The Illinois roads will be of brick or concrete. Every other type has been eliminated. The brick roads will have a concrete foundation with the superstructure of brick grouted with Portland cement. A majority of the roads will, of course, be plain concrete roads. Inasmuch as a concrete foundation under a brick road will sustain the superstructure of brick as well as the traffic imposed thereon, it is entirely feasible to dispense with the brick and carry the concrete on up to the required level of the road. By using concrete in this way there will be effected a saving of several thousand dollars per mile over the cost of brick roads. The average cost of concrete roads 16 feet wide, taking the country over, has been $12,000 per mile. In some states, notably in Maryland, Mississippi and Minnesota, narrow concrete roads have been built for about $7,000 per mile.

Wayne county, Mich., has the most remarkable system of concrete roads in the United States. Their construction began about seven years ago. The value of farm lands has, in many instances, more than doubled. Farmers who formerly required four horses to transport their own produce to town use one horse. Where trips to market formerly occupied an entire day, or perhaps two, the journey is now made in a few hours. These roads radiate like the spokes of a wheel with De-

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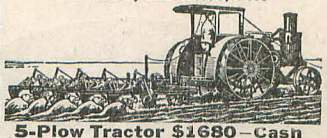
Also for running 22x36 inch threshers, silo fillers, etc.



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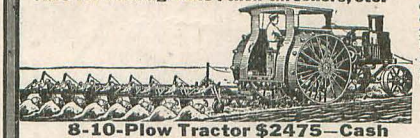

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troit as their center. The great department stores of the city deliver merchandise over a wide area, going now into what were formerly remote rural districts. In brief, many of these farms, in so far as easy access to the city is concerned, have become suburban properties. The average maintenance on concrete roads 16 feet wide has been less than $30 per mile per year, and in the case of a concrete road built in Bellefontaine, Ohio, more than 20 years ago, a road subject to constant use since that time, the average repair charges have been less than $25 per mile per year. In the state of Connecticut there is a stretch of concrete road four and a half miles long known as the Milford Turnpike. After a year of hard usage it was inspected by engineering experts, who stated that thruout its entire length the road was flawless with the exception of a small hair crack in a single slab.

COST OF PRODUCING WHEAT

The cost of producing an acre of wheat, runs fairly uniform from year to year. On the state demonstration farms it has varied from $7.93 in 1907 to $9.98 in 1912, and average for the entire period being $8.93.

The cost of producing wheat continuously, as has been the practice in North Dakota in the past, is probably considerably less than this, so that the production of wheat has given a small profit. Some years when the crop was exceptionally good and when the prices were quite high, profits have been large. There are other seasons when there was no actual loss per acre.

The cost of producing an acre of wheat can be expressed in another way. How many bushels does it take to pay the cost of production? This depends on two factors, the actual or money cost and the selling price of the grain. On the demonstration farms in 1906 it took 13.7 bushels to pay the actual cost of production, and the lowest cost of production was in 1908 when it took 8.85 bushels to pay the actual cost of production. The average for the period was eleven and one-half bushels. The average yield of wheat in the state, according to the United States Department of Agriculture's reports for this period, is eleven bushels. If the cost was the same as that on the demonstration farms for this period, there would be but one-half of a bushel profit per year in producing an acre of wheat. The farmer would, however, be paid for the labor that he performed and he would have interest also on all his investments, and in many cases this has been about the only profit that farmers have secured from the growing of wheat continuously.

If North Dakota is to make the progress that it is entitled to, some other crops must be found which will give larger returns than the wheat crop. We have such crops which are very successful in North Dakota, the principal ones being corn, alfalfa and livestock. If these are systematically introduced on the farm, there is no doubt but what the net income on the farm may be very greatly increased.

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The 96 pages of **Louden Barn Plans** are full of dollar-saving information. It contains 51 representative designs for cow barns, horse barns, combination and general purpose barns, as well as many other designs for hog barns, pens, hay sheds, chicken houses, etc

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We have designs for nearly 4,000 barns, and our architects will give your letter personal attention if we learn your exact requirements.

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Feed Carriers	*Horse Stalls*	*Cow Pens*	*Water Basins*
Milk Can Carriers	*Mangers*	*Calf Pens*	*Bird Proof Barn Door Hangers*
Harness Carriers	*Manger Divisons*	*Bull Pens*	*Power Hoists and Other Barn Specialties*
Hay Carriers	*Feed Racks*	*Hog Pens*	
Feed Trucks			

CATALOGS FREE

Louden Machinery Co. (Established 1867) **8001 Broadway, Fairfield, Iowa**

(126)

"You've two resources at least: blizzards and wind."

Little did he foresee the enormous value to the people of our state of the latter "resource." Little do the people themselves realize the almost limitless power to be derived from that seemingly unmanageable force, the ever-active wind. At last it may be caught and harnessed.

The Country Gentleman of July 17 devotes an entire page to the achievements of the president of the Wind Electric Company, located at Wyndmere, N. D.

By means of a windmill, self-governing, a dynamo and a storage battery the force of the wind, so long gone to waste, may now be stored for future use on the farm for lighting, pumping, vacuum-cleaning, running grinders, forges, churns, and in fact, any machinery used on the farm.

Several of the outfits manufactured by the company are in successful operation thruout North Dakota and their new plant will soon be taxed to its utmost capacity.

The Manikowske brothers have devoted years to research work both at home and at the North Dakota Agricultural College, where they received valuable instruction, much encouragement and inspiration.

Don't fail to address them if you are interested in harnessing the wind to do your bidding.

THINKING OF BUILDING A BARN?

Louden Barn Plans is a 112-page book on barn construction. Over 50 different plans are shown, and full description of the very latest ideas in barn construction are set forth. While it was originally intended to sell this book foi one dollar, it will be furnished to any farmer who is going to build or remodel a barn and will tell how many cows and how many horses he wants to house. Address Louden Machinery Co., Fairfield, Iowa.

A PURE FOOD PRODUCT

Visitors at our fairs this summer had the privilege of sipping the various fruit beverages of the Zieve Pure Food Products Company.

On the Pure Food page of this issue will be found the advertisement of this company. Our readers may feel safe in calling for these fruit products at their grocers. They are absolutely pure and furnish a refreshing beverage at the very nominal cost of 25 cents a bottle, which makes two gallons.

A WORTHY HOME INDUSTRY

The people of North Dakota have a reputation for showing their loyalty by patronizing local North Dakota manufacturers. This is exactly as it should be, as in so doing they are assisting in building up the industries, which are just as necessary in an agricultural state as elsewhere. The Bemmels Milling Co., of Lisbon, N. D., manufacturers of the well-known pure food cereals, "Cheer-up" Self-Rising Pancake Flour and "Cheer-up" Sterilized Breakfast Food are building up a rapidly increasing business. This has been possible by co-operation,—giving high quality in return for the loyalty of North Dakotans. The mill is ideally located in one of the richest durum wheat sections of the country, and thousands of bushels are being ground into "Cheer-up" cereals and the famous "Cheer-up" and "Equity" (Quality First) Patent Flours. Every grocer in the State who is interested in giving his customers pure food is carrying a stock of "Cheer-up" Pancake Flour and Breakfast Food, and every flour dealer handling "Cheer-up and "Equity" (Quality First) Flours is quickly eliminating poorer flours and carrying the Lisbon flours exclusively.

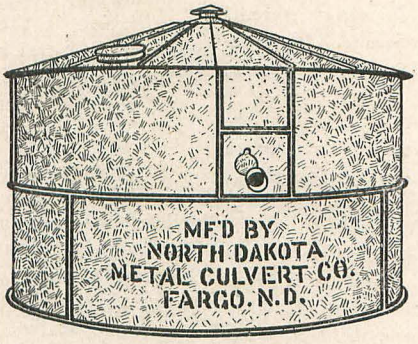
THE ONLY SECTIONAL GRAIN BIN MADE

with angle iron frames

A close investigation will convince anyone they are the strongest and cheapest

QUALITY FIRST

Send for Catalog



Manufactured By

NORTH DAKOTA METAL CULVERT CO.

Fargo, North Dakota

SEED WANTED

We are in the market for North Dakota grown TIMOTHY CLOVER, ALFALFA, BROMUS and MILLET of all varieties.

Send us samples of any high grade grass seed or seed grain you have for sale, and we will make bid on same F. O. B. your station. WRITE US TODAY.

FARGO SEED HOUSE

Fargo, - North Dakota

North Dakota Farmer

Entered as second class matter in the postoffice at Lisbon, North Dakota

PUBLISHED EVERY MONTH

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PROF. J. H. SHEPPERD, State Farm Notes.

PROF. W. B. RICHARDS, Livestock.

PROF. C. B. WALDRON, Fruits, Forestry, Insect pests.

Remittances should be made by Drafts, Postoffice Order or Express Order.

Address all business correspondence to the Lisbon office.

Vol. 17 AUGUST, 1915 No. 2

Instead of being a preparation for life the school should be a part of life.

During 1913 the income from poultry in the United States is estimated to be in excess of $700,000,000.

"All work and no play makes Jack a dull boy," says the old saw and says it truly. Give the kids an occasional outing.

The way to make farming interesting is to make it profitable. This requires a judicious mixture of brains, work and economy.

Less than half the area of North Dakota is under cultivation, or about 21,000,000 acres out of a total of approximately 45,000,000 acres.

The gold output in the United States since 1848 is about $3,300,000,000, or about one-third of the value of one year's agricultural products.

Girls should be taught in school many things that they should know as wife and mother, even if algebra and ancient history or even Latin have to be to some extent abbreviated.

It is estimated that insects destroy crops annually, to the extent of $1,200,000,000. Birds seem to be the natural enemy of these pests and should, therefore, be encouraged to multiply.

Were the workshops of the great industries of the country planned as are the farmer's kitchen, the home workshop, the stockholders would look in vain for the annual dividends, so great would be the waste occasioned by "lost motion."

The fire loss in the United States amounts to the enormous sum of $250,000,000 annually. This is an average of $2.51 per capita, while the loss per capita from fire, in the six leading European countries is only 33 cents. When property is burned up it is a total loss for all time.

The present war in Europe demonstrates the necessity of mixing more genuine humanity with our religion and culture if we would build up a civilization that will withstand the greed and selfishness of a few hereditary rulers whose purpoes in life is national aggrandizement at any cost.

A course in agriculture should be required by every clergyman as an essential part of his education. A preacher should understand how God provides for the body as well as for the soul and being able to commune with Nature will realize more fully the goodness and benevolence of Deity.

Parent-Teacher associations are increasing in number thruout North Dakota. Has your district taken action? Perhaps the new teacher is simply waiting for the suggestion. Such an association is the connecting link between the rural school and the home. There should be one in every rural and town district in the state.

It costs from $6 to $8 to prepare an acre of corn for turning in the hogs, while the returns are from $20 to $30. This year's crop of corn will be admirably adapted to hogging down, since the nutrients are concentrated in the small stalks. Remember that the profit in hog raising depends largely upon the use of the pasture and hogging down.

The remarkable discovery by the Department of Agriculture that mineral oil mixed with cement, not to exceed 10%, will make the concrete water proof, will be welcomed by those who have been troubled with leaking cisterns. Altho it takes twice as long for the cement to set hard, the increase in strength is nearly as rapid. The tensile strength of the oil-mixed cement is nearly as great as the plain.

The business of farming, like any other business depends very largely upon grit for success. A young man possessed with a good supply of grit can secure a piece of land in a few years that will support a family in good style and save something every year for the decline of life. There is no other business that offers a surer income for present needs and for an old age competence, at least not in this state, than farming.

It has been demonstrated that typhoid fever is more common in rural districts than in town, contrary to general belief. The reason is that in the country too frequently no care is given to the water supply, especially the location of wells. Should there be continual sickness in your home, look well to the source of the water supply. If you could only see beneath the ground, you might be shocked at the course traversed by the water before reaching your well.

The self binder is constructed with a view to require but little mechanical skill to operate it. Nevertheless, but few binders or mowers live out more than half the period of service they are capable of, simply because the manager does not understand how to properly care for their delicate parts. How to manage and operate farm machinery, therefore, should be a part of every young man's education, provided the young man intends to follow farming for a livelihood as most young men country reared should decide to do.

Why not identify your farm by giving it a name? In Wisconsin, by the payment of a fee of 25 cents, a farm may be registered with the Register of Deeds. If you have not already done so, at the next meal let the family decide upon a name, have your printer get out some stationery having the name of the farm conspicuous, talk about your farm, write about your farm, have the name painted upon the barn, then by raising some special kind of livestock, grain or produce, make your farm famous by giving **quality.**

North Dakota is certainly blessed this year, with her 349 bushels of small grain for every man, woman, and child in the State. At this writing it looks as if the corn crop, so tardy in the spring, will yet redeem itself. The warm weather of the past weeks has done wonders. All crops taken together, North Dakota leads the other states with her 120% of an average crop. What are we going to do with it? Go farther into debt by reckless purchases? That is too frequently the effect.

Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and are of the highest grade. ASK YOUR GROCER FOR THEM.

"How Delicious!"

This is the verdict of all housewives as to

Hiawatha Canned Goods

This well-known brand represents the best that money can buy in Canned Fruits and Vegetables.

The Grocer who features Hiawatha Food Products builds both Profit and Prestige for his store.

We Recommend Hiawatha Foods FOR TIRED APPETITES

STONE-ORDEAN-WELLS COMPANY
Eight Houses

Our Candies Are Pure

Chaney-Everhart Co.
Fargo, N. Dak.

"BUY" "EAT"

HOME BRAND

Pure Food Products

"ECONOMY" "SATISFACTION"

Griggs, Cooper & Co.

MANUFACTURING
WHOLESALE
GROCERS

ST. PAUL, MINN.

Main Offices:
CORNER THIRD AND BROADWAY

ZIEVE'S

Fruit Nectar

WITHOUT AN EQUAL

One taste always means more

A 4-oz. bottle makes 2 gallons

Costs 25c

A Compound of Pure Fruit Juices, Vegetable Oils and Herb Ingredients

For Sale by first class Grocers

If your grocer does not handle it Write Us

THE ZIEVE NECTAR CO.
216-Fifth St. North
Minneapolis, - - Minn.

MONARCH BRAND

FOOD PRODUCTS

A GUARANTY OF PURITY. A WELCOME GUEST at every table where the HOUSEWIFE demands the BEST. THE MONARCH LABEL insures QUALITY in Coffee, Catsup, Pickles, Maple Syrup, Canned Goods or any article bearing the MONARCH BRAND of REID MURDOCH & CO CHICAGO

Eat North Dakota Sweet Corn

Sanitary

PACKED BY ONLY FACTORY OF ITS KIND IN THE STATE. SEALED IN SANITARY CANS AT OUR MODERN THREE-STORY FACTORY

Delicious

NORTH DAKOTA CORN EXCELS IN SWEETNESS.

ASK YOUR GROCER FOR OUR BRAND.

WRITE FOR PARTICULARS

Sheyenne Valley Canning Co. - Lisbon, N. D.

Livestock Department

FARM AND STOCK NOTES

N. J. Shepherd

Always churn the cream when slightly acid.

Better work a horse unshod than badly shod.

To breed a grade to a grade is a step backwards.

Surplus flesh is a hindrance to a horse that has to work hard.

Hogs turn grain into money quicker than any other farm animal.

It is the poverty-stricken pig that is an everlasting creeper and climber.

Cattle can thrive only by full feeding, and without thrift there can be no profit.

To a considerable extent the wealth of the country lies in the diversity of its productions.

With nearly all products the difference in quality makes a paying compensation in favor of the best.

To secure the best returns for feeding make the fat sheep as evenly good as possible.

The value of manure is rated by the richness of the food fed in fertilizing elements.

The cow that can make gilt-edged butter at the lowest cost is the best cow.

Judgment is the outgrowth of experience, yet a man may have a wide experience and yet be seriously lacking in judgment.

The high-stepping horse rarely has a low head. A quick sprightly stepper rarely stumbles. The quick walker is usually a safe horse.

It is the sprightly step, the lively action and the powers of endurance that make up the good walking horse.

To secure the best results from work it must be done at the proper time and in the best manner.

The man with thin, wornout lands to enrich can use sheep to better advantage than he can any other animal.

It is not always the farmer that works the hardest who prospers most, but the one who works to the best advantage.

The farmer who is far from market is the man who should always aim to market his grain and hay in the most compact form.

While a hog will quench his thirst by drinking slops, it is not best to confine him to this; he should have pure fresh water every day.

It is the young quick-growing steer that pays best and it should be marketed as soon as it reaches that point at which the greatest profit is obtained.

Keep the colt growing, it takes longer and costs more to make up for a pound of lost growth than it does to add two pounds of gain under favorable conditions.

The greater the decomposition of milk the more will the cream be affected and as a consequence the more difficult will it be to obtain a nice quality of butter from it.

Animals are kept on the farm for profit and the foundation law of feeding requires a food that will produce the greatest quantity of flesh or milk at the least possible cost.

With proper provision of warmth and shelter and a good supply of palatable nourishing feed, winter dairying can frequently be made more profitable than summer. Labor is usually cheaper and butter higher.

The nearer we can supply the wants of nature, keep its profits moving forward without violent or partial interference, the more nearly will we meet with success in profiting by its beneficence.

The dairying interest will always be found an important one and one that requires special training and like any other business it pays in proportion to the skill used in conducting it.

The dairy cow must have good digestion and assimilation. It is not so much how much she eats as how much she assimilates. Animals sometimes eat much more than they properly appropriate for the work which feeding is intended to do.

Never breed to an animal that has developed a bad disposition. The meekest and quietest sow in the herd will rear the finest lot of pigs and they will, if properly handled, have as good dispositions as their mother. A vicious sow, will as a rule, produce pigs having the same faults. Generally the young partake more of the disposition of the dam than of the sire. In form they resemble the sire more.

WORLD'S RECORD COWS PRODUCE CALVES

May Rilma 22761, A. R. 1726, who held the record previous to Murre Cowan 19597, A. R. 1906, and was sold for over $5000 at public auction

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

DUROC JERSEY SPRING PIGS

Buy your new stock now while the price and express will be low. First class stock from prize winning sires at reasonable prices. Unrelated pairs and trios a specialty. New stock for old customers.

Roy W. Jacobs, : Wadena, Minn.

FOR SALE: Chester White Gilts Bred to Dakota's Pride, a son of Sweepstakes No. 28006, the hog that weighed 1260 pounds. Also Pigs at weaning time.
THE PRATT FARM
Geo. A. Pratt, Prop. : Cooperstown, N. D.

For Sale: Poland China Spring Pig Boars, S. C. Whtie Leghorn Cockerels. Grimm Alfalfa Timothy and Clover Seeds. Catalog Free. **J. W. BECKMAN, COKATO, MINN.**

Duroc Jersey Pigs, delivered anywhere in the State of North Dakota or Minnesota, at $20 apiece or $35 per pair, pedigreed. **FRANK LAMB, FARGO, N. D.**

Red Polled. If you are looking for choice bulls all ages, write, **Howard H. Capener, Erie, N. D.**

Pure bred Percheron Horses and Shorthorn Cattle Stock for sale. **Nels Knutson & Sons, R. 1, Fullerton, N. D.**

THE PLEASANT GROVE FARM at Holmes, Grand Forks County, sells registered Shropshire and Oxford Rams and Ewes; also Polled Durham Bull Calves. **R. E. Strutz, Bismarck, North Dakota.**

FOR SALE. Two Holstein Bull Calves, nicely marked and fine animals; Ages three and four months. Sired by my herd Bull Sir Albino Beets Segis No. 116611. **Wm. Pewe, McHenry, North Dakota, R. R. 1.**

HIGH GRADE GUERNSEY CALVES
From our dairy herd, either sex, for sale. Prices ranging from $10.00 up, according to age.
RIVERVIEW FARM
Stern Bros., Prop. Frank Lamb, Mgr.
R. R. 2, Fargo, . . North Dakota

Meadowlawn Farm. The largest breeders in North Dakota. Percheron Horses, Shorthorn Cattle, and Berkshire Hogs. Where quality counts. Address: **A. H. WHITE, . . . Kramer, N. D.**

Choice Poland China Hogs always on hand Bred Gilts all sold, Register now for spring pigs, either sex; prices right. **Thos. Forbes, Petersburg, N. D.**

DUROC JERSEY March Pigs, high quality breeding. Buff Orpington Chickens, Cheap.
G. H. JOHNSON
Rt. 2 : : : Evansville, Minn.

For Large Yorkshires of either sex and bred gilts, address **L. A. Knoke, Badger Den Stock Farm, Willow City, N. D.**

ENVILLA STOCK FARM

Envilla Stock Farm, Cogswell, N. D. will quote you special prices on Angus and Holstein Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat, Bird Dogs and other breeds, Angora Cats. All varieties of chickens turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

Bixby's Red Polls

of A. R. Breeding

My herd bull J. D. Merryweather No. 24396 is from 1400-pound cows and is getting the size in my herd. His dam is a full sister to the World's Champion Two-Year-Old heifer. His first three dams average close to 400 pounds butterfat in one year.

J. S. BIXBY, : : LISBON, N. DAK.

dropped a bull calf after making her world's record.

Notice has been received at the office of The American Guernsey Cattle Club that Murne Cowan, who recently gained the honor of holding the Guernsey record for milk and butter fat production and who for a time held the world's record over all breeds for fat production, dropped a large, nicely marked heifer calf on May 18, and that both calf and mother were doing well. She was bred on August 1st and thus beside making her wonderful production of milk and butterfat carried a calf over six months of her record. To carry a cow thruout a year on official test, milking her four times a day, having her bred successfully on the first service, gaining the honor of a world's champion record, and drying her off so as to give her a thoro rest—even tho she were producing 50 pounds of milk per day at the end of her record—before producing a fine heifer calf marks an advanced step in the scientific care, management and breeding of livestock.

We do not believe that this record has been attained by any other world record cow.

BREAKING AND TRAINING COLTS

Steps to be Taken Preliminary to Hitching to Vehicle—Suggested Precautions in Early Horse Training

The erroneous idea that cruelty in horsebreaking and training is necessary is practically a thing of the past. Well directed patience has been found to give better results than inconsiderate applications of the "persuader." However, all horses are not to be treated alike; a high-strung, sensitive horse must be handled gently, the dullard treated sharply. "The first thing in training a horse is to get his attention; second, make him understand what is wanted," says the new Farmers' Bulletin No. 667, "Breaking and Training Colts," by the U. S. Department of Agriculture. The education of the horse, continues the bulletin, is based on reward and punishment and each should immediately follow the act. The advantage of breaking a horse when he is young before he has developed a strong independent instinct is easily seen. The plan generally followed is to break the colt to being led and handled before it is weaned, and to break to harness between the ages of 2 and 3 years. Colts should not do heavy work until they are 4 years old and should be accustomed to it gradually.

The following description of a rope harness to be used in teaching the colt to stand is also used in the first lesson on leading. A colt tied with this harness cannot easily injure himself in his efforts to get loose. A pull on the rope, as adjusted, exerts a pressure almost simultaneously on the crupper, surcingle and on the halter.

Before a colt is broken to being led it should be taught to stand tied; this applies to unbroken horses of all ages. To do this, put a strong halter on the colt; then take a rope about 14 feet

For Sale Choice Big Type Poland China Gilts, Sired by Mouws Jumbo 3rd and Giant Rupert, bred to Dignan's Chief and Miller's Big Chief for March and April farrow. I am booking orders for spring pigs to be shipped at weaning time. Pedigree furnished. Call on or Write

J. A. Dignan

Waverly, : : : Minn.

DUROC JERSEYS Gilts out of such sows as Golden Model Queen 6th, Model Beauty and other sows as well bred as could be bought at the sales last winter. Write **H. N. HOYME, Jasper, Minn.**

FOR SALE. Short Horn Bull, 18 months old, Roan; weight about 1000 pounds. Good breeding. **J. M. Crawford, Wahpeton, N. D., R. 3.**

HOLSTEIN Cows, Heifers and Young Bulls. All ages. Write **Envilla Stock Farm, Cogswell, North Dakota.**

Lyndale Stock Farm

Breeders of **Registered Red Polled Cattle,** and **Big Type Poland China Hogs.** Some good bull calves for sale. Also have 75 March and April 1st pigs now ready to ship. Mostly all sired by a "Peter Mouw" bred boar.

J. E. BASS & SONS, Props.

Tolley, North Dakota

Wanted Men For U. S. Meat Inspectors; U.S. Quarantine Service; U. S. Field Service; as U. S. Army Veterinarians, etc. Graduates are eligible to examinations for such positions. Fine salaries. Great opportunities for Successful Practice. Our College under U. S. Government Supervision. Established 22 years. Thoroughly equipped. Faculty of 16 instructors. Write for particulars.

INDIANA VETERINARY COLLEGE

837 E. Market St. Indianapolis, Indiana

ST. PAUL UNION STOCKYARDS CO., SOUTH ST. PAUL, MINN.

Comparison of Receipts and Shipments of Livestock for July, 7915

Receipts

Railroads	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
C. R. I. & P.	371	331	1092	8	.....	35
C. G. W.	1020	623	4526	469	2	124
C. M. & St. P.	4612	1221	21746	1158	41	517
M. & St. L.	2062	1009	13004	514	.....	289
C., St. P., M. & O.	4083	1522	22886	1115	2	538
C. B. & Q.	369	169	816	416	.....	30
M.,St.P.& S.S.M.	9536	2858	16678	761	52	636
Gt. Nor.	14100	4610	31884	1926	220	1081
Nor. Pac.	8048	1491	17542	4674	885	595
St.P.B.& T.	.....	.....	.....	.....	.....	.....
Driven In	613	221	1293	2	5	.....
Total	44814	14055	131467	11043	1207	3845
Inc.over 1914	20278	3738	18319	.....	842	905
Decrease	.....	.....	.....	8846	.....	.....
Inc.over 1914	57214	4235	415069	.....	3119	6254
Decrease	.....	.....	.....	20246	.....	.....
Average Wts.	835	194	233	82	.....	.....

Shipments— Disposition

C. R. I. & P.	1353	.....	137	354	.....	48
C. G. W.	3507	42	22	110	17	126
C. M. & St. P.	8869	875	11506	560	61	427
M. & St. L.	639	.....	439	.....	.....	28
C.,St.P.,M.& O.	4680	997	11557	755	154	305
C. B. & Q.	2081	140	9348	105	963	201
M.,St.P.&S.S.M.	933	10	.....	799	22	36
Gt. Nor.	1877	270	.....	.....	48	61
Nor. Pac.	1782	255	.....	11	8	59
St. P. B. & T.	.....	.....	.....	.....	.....	.....
Driven Out	419	195	561	130	21	.....
Total Shipments	26140	2784	33570	2824	1294	1291
Inc.over 1914	10041	732	591	.....	921	362
Decrease	.....	.....	.....	9058	.....	.....
Jan. 1 to date	150859	12024	430693	159137	6080	9680
Inc.over 1914	26005	.....	188364	5541	3179	2252
Decrease	.....	4288	.....	.....	.....	.....
Consumed in So St. Paul this month	19436	9732	98038	8006	.....	.....

FOR SALE: Registered Holstein Bull, Three Years Old. **C. T. Sinderson, Towner, N. D.**

PRAIRIE DELL STOCK FARM, GOLDEN MODEL DUROCS

The Prairie Stock Farm offers some of the best bred pigs in the state, sired by the following boars: Dakota Model and Golden Chief, out of shows by the following noted boars: Grand Champion Chief Col. International Grand Champion Volunteer, Dakota Model, and Golden Chief, and other good boars. Dakota Model was one of the largest boars in the state for his age. He was sired by Golden Model XX, a first prize hog and he by Golden Model 2nd. Dakota Model's dam was a half sister to the twice grand champion Crimson Beauty that sold at public auction for $610.00. Golden Chief is an extra large hog. He was sired by Col. Chief 2nd. first prize at Minnesota and South Dakota state fairs, and he was a litter sister to the Junior Champion boar at South Dakota state fair. Choice pigs of both sets. Sows bred or open. I can sell unrelated pigs. Ship via Soo or Great Northern.
Maurice H. Bliss, - - Genesee, N. Dak.

HOLSTEINS. Beautifully Marked Holstein heifer and male calves, 15-16ths pure, 4 to 6 weeks old, $20.00 each, crated for shipment anywhere. All from mature dams and heavy milkers, guaranteed. One car heifers a year old, $45.00. Write or send order to **Edgewood Farm, R. 10, Whitewater, Wis.**

MISCELLANEOUS

WANTED. Live Foxes, Skunks, Mink and Badgers, any time.
Envilla Stock Farm, . . Cogswell, N. D.

FOR SALE: Some fine Collie Puppies. Price $8.00 F. O. B. the Great Northern or Northern Pacific. **R. F. Smith, Tower City, N. Dak.**

POTATOES go 300 bushel to acre **CORN** 60 bushels to acre in HUBBARD COUNTY. Rich clover and dairying lands, near beautiful lakes, good towns, schools, roads, at very low prices. Write today to **Miller Bros. Land Co., Park Rapids, Minn.**

WANTED to hear from owner of good farm for sale. Send cash price and description.
D. F. BUSH, . . Minneapolis, Minn.

FOR SALE: 3 H. P. Ferro 2-Cycle Stationary Engine. Has been completely overhauled, after being used for light work and replaced by electric motor. Just the power for driving machinery for lighting, grinding, separating, washing, pumping, etc. Complete with Coil, Battery, Pump, Pulley, Carburetor, Gasoline Tank, Exhaust Pipe, Foundation, etc., ready to run. Cost new $80.00: if taken at once $30. **Crocker Bros., Lisbon, North Dakota.**

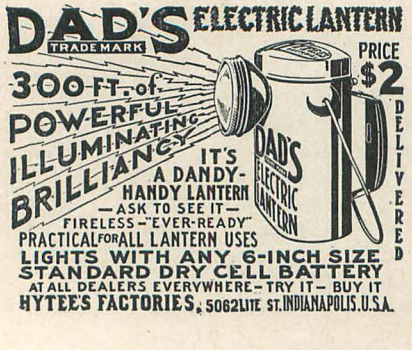
Snap for Renter. Three hundred-acre farm, $2500. Eighty acres under cultivation; one hundred fifty tillable, balance pasture. Will sell stock, implements and crop at reasonable price. Plenty of coal and water on place. Plenty of wood and free range near-by. Good location for stock ranch. **Adam Balakavage, Wibaux, Mont.**

Agents Wanted to sell our beautiful Art Pictures. They sell everywhere, in farm or city homes, at 25 cents up. Big profits. Beautiful sample, (size 16x20) and agent's terms, only 15 cents, post paid. Order at once and be the first in your territory. **The Art Shop, Dept. A, Hendrum, Minn.**

Auctioneering

COL. H. A. KINNEY

Real Estate and Registered Stock Specialist—22 years experience. Write for dates and terms Breeder and shipper of Chester White hogs. Larger blood lines for 1915.
Milnor, - - - NORTH DAKOTA



long, double it, putting the loop under the horse's tail as a crupper, twist the two ends together about three times so the twisted rope lies on the colt's back a few inches ahead the tail, then let one come forward on each side of the horse, and tie them together in front against the chest just tight enough so that it will not drop down; then run a surcingle loosely around the horse behind the withers, tying into it the crupper rope at both sides. Have an additional rope about 12 feet long, run it thru the halter ring, and tie it at the breast to the rope that forms the crupper. Tie the other end of the rope to a solid post, allowing about 3 feet of slack. Leave the colt tied for an hour. Another method is to have a loop in one end of the rope, run the lead strap thru this loop, and tie it with a little slack to the rope that forms the crupper, the other end, of course, being tied to a solid post.

While tied the colt should be gentled and accustomed to being handled on both sides, on the hind parts, and on the legs. To do this, hold the headstall in one hand and with the other hand pet and rub the colt, first on the neck and head, then on the back and the sides, and last on the legs. To gentle the hind parts take a stick about 4 feet long, wrap a gunny sack around one end, and tie it. Allow the colt to examine the stick with his nose, then rub it all over his body.

With this arrangement the colt's hind legs may be rubbed without placing one's self in danger of his heels. If he kicks at it do not hit him, but allow him to examine it again, and proceed as before. This lesson should continue until the colt will stand being approached from either side and rubbed all over. The second day he may be tied up again and further gentled with sacks, blankets, and noises until he has no fear of them around him, under him, or upon him.

Another method of gentling a horse is to tie the halter rope to the tail. This forces him to go in a circle. When he gives in and stands quietly he may be harnessed, saddled, mounted, accustomed to strange sights and sounds, and handled with safety. This is one of the best aids in use in gaining a horse's submission.

DAIRY COWS

Some ten years ago the Guernsey cow, Yeksa Sunbeam, made the first official record of butterfat, which was quivalent to 1000 pounds of butter. This record made in 1904 and 1905 was 14920.8 pounds of milk and 850.15 pounds of butterfat with 5.74 for the average per cent of fat.

Later the Holstein cow, Colantha 4th's Johanna 48577, succeeded to the world's championship with a record finsihed in 1907 of 27,432 pounds of milk and 998.26 pounds of butterfat with a 3.64% test. This cow held the record until November 22, 1911, when she was succeeded by two more Holsteins, Pontiac Clothilde De Kol. 2nd 69991, who produced in 1911, 25318 pounds of milk and 1017.28 pounds of butterfat with 4.02 for the average per cent of fat; and Bonastine Belle De Kol 90441, who in 1912 produced 27,404.4 pounds of milk and 1058.34 pounds of butterfat with an average of 3.86 per cent of fat.

This record held sway until 1914 when May Rilma 22761, another Guernsey, produced 19673 pounds of milk and 1073.41 pounds of butterfat with 5.46 for the average per cent of fat; and later was surpassed by Murne Cowan 19597, who produced 24,008 pounds of milk and 1098.18 of butterfat with an average test of 4.57%. Then Finderne Holingen Fayne 144551, a Holstein, came forth with 24612.80 pounds of milk and 1116.05 pounds of butterfat with an average of 4.53 per cent.

It is interesting in the above to note that until the last record was made the Guernsey and Holstein breeds tied in the number of cows which had gained grand championship honors.

It is also interesting to see the records of these cows side by side for comparative purposes as follows:

Breed	Milk	Fat	%
Guernsey	14920.8	857.15	5.74
Holstein	27432.5	998.26	3.64
Holstein	25318.0	1017.28	4.02
Holstein	27404.4	1058.34	3.86
Guernsey	19673.0	1073.41	5.46
Guernsey	24008.0	1098.18	4.57
Holstein	24612.8	1116.05	4.53

From this it will be seen that in each case where the world's record has been broken there has of course been an increase of fat produced and along with this in the case of the Guernsey cows there has also been an increase in milk production.

To Exchange For North Dakota Farm

Eighty acres of beautiful waterfront on famous Puget Sound, State of Washington. A mile of finest shore front. Midway between Tacoma and Olympia. View of all the Mouuntains. Good steamboat service. Unsurpassed climate. Good land. Ten acres cleared. Young orchard of 650 fruit trees. Large modern poultry buildings. Small, but substantial house of five rooms, etc., new barn 50x60 with shed extension, smaller buildings, etc. Delightful place to live. No finer investment property. Property recently appraised at $15,000. There is $4,000 borrowed on it. Property will soon be ready to cut up into waterfront lots. What have you to offer?

Address: **Washington, care of North Dakota Farmer, Lisbon, North Dakota.**

Poultry Department

WHAT CAUSES DISEASE IN POULTRY?

Michael K. Boyer

Prevention is a greater art than cure, but prevention does not mean doctoring. It means a method that will fortify the body so that no germs will have the strength to enter and destroy. If the beginner would spend half the time to study prevention that he does to cure, he would not only have hardier stock but better success.

Dr. N. W. Sanborn says that nearly all illness in our birds would be avoided if we knew causes and practical prevention. The fact is that few poultrymen consider this matter until the disease breaks out.

As a rule, poultry are hardy. But they must have proper feed and care. Neglect in any way quickly shows. One of the greatest curses to the health of fowls is imbreeding. No strain or color, however hardy, can stand the bad influence of mingling togeth the same bloods. Housing is also of vast importance. There must b: plenty of ventilation, but there must not be any draughts. Fowls need pure air. To allow the droppings to accumulate in a house, especially if the house is closed tightly at night, compels the fowls to breathe a contaminated air, which is sure to cause sickness. Cleanliness—which means a cleaning out of the houses several times a week, if not daily will not only give the atmosphere a pure condition, but it will greatly help to kill disease germs. It is important that this rule be enforced. Getting gowls in a too-fat condition invites disease. It is therefore necessary that the poultryman sees to it that the stock not only gets rood of th: proper nature, but that it also secure plenty of exercise. If the blood is allowed to become sluggish there is sure to be some bad results. The word "comfort" should be written over the door of every hen house. And that word means a great deal. It means not only a comfortable feeling resulting from the food given, but it means comfort on the roost at night, and comfort in the pens at day time.

It is a noteworthy fact that contagion very rarely affects flocks that have strong constitutions and are in the pink of health. This has been proved by State Experimental Stations where fowls affected with roup have been placed in pens alongside strong, hardy birds. The healthy stock seemed to be immune. This, of course, would not be the case if these well fowls had been obliged to drink out of the same drinking vessels.

Dr. Sanborn says chicken-pox or sorehead comes from a previous case. He says it never appears except where another case has supplied germ life to pass on the sickness. But Dr. Sanborn does not say how the original case developed. He only tells us that it takes one case to supply another with the germ life. Chicken-pox is due to dampness and foul quarters. It usually presents itself in the fall of the year, and wet dark days seem to increase the number and severity of the cases. Where perfectly dry quarters are given, where the droppings are cleaned up every day, and where the atmosphere of the houses is kept pure, chicken-pox rarely visits.

If the beginner will start with sturdy stock, never breed from birds that have been ill, and apparently cured, and never use undersized stock, he will be making a great stride towards building up a hardy race.

Never overcrowd the quarters. Fowls need plenty of room both day and night, and to crowd 50 fowls in a space that is but large enough for but 25, is to invite sickness and other troubles.

Provide shade in the runs during the summer. But the runs should be only partly shaded or they will be damp. Having shady nooks where fowls can congregate during the heat of the day, will give them a world of comfort. While the morning sun is a tonic, the hot mid-day sun is weakening.

Lack of exercise is another cause of sickness. Idle fowls are not well ones, for the healthy hen is at all times busy during the day time. She is an early riser, and she goes early to bed. The fowl compelled to scratch among litter for its grain is never cold during winter, and it prevents sluggishness in summer.

The food must always be pure. Musty grain is dangerous. Grit must be supplied, and fresh water must be constantly within reach. Fowls are great drinkers, and the water they drink goes a great way into the manufacture of eggs. It is therefore important that they continually have a supply of fresh, clean water. The drinking vessels must not be forgotten. They should be thoroly washed out

BEITH'S WHITE WYANDOTES

Winners at Crookston, St. Paul, Minneapolis and Fargo, N. D. Our birds are bred to lay as well as they are bred to win.

J. C. BEITH

Wheatland, - North Dakota

EGGS FOR HATCHING from choice Silver Lace Wyandottes. $1.50 for 15 eggs. **Mrs. Thomas Brady, Lansford, N. D.**

WHITE HOLLAND TURKEYS & BARRED PLYMOUTH ROCKS

Eggs for hatching from choice matings. Turkey eggs $3.50 for nine eggs. Rock eggs, pen No. 1, $2.50 for fifteen eggs. Pen No. 2, $1.50. Express or parcel post prepaid. Not guaranteed by parcel post.

ROY W. JACOBS, - - WADENA, MINN.

BOURBON RED PURE BRED TURKEY TOMS, good ones, $3.50 each. Toulouse Geese, $4.00 per pair. **Mrs. F. Spriggs, Maddock, N. D.**

Breed White Wyandottes. Eggs for sale from vigorous trap-nested stock. My birds win in show room wherever exhibited. **M. C. James, Valley City, N. D.**

For Sale. Nice Buff Orpington Cockerels at $1 each. **Mrs. John Alexander, Edmunds, N. D.**

White Holland Turkeys, Toulouse Geese and Barred Rock Cockerels.
Gustav Larson : : : Northwood, N. D.

S. & R. C. White Leghorns. Blue Ribbon and Silver Cup Winners. Cockerels, $1.50; Eggs, $1 per 15; $4 per 100. **H. H. Hirschy, Lisbon, N. D.**

S. C. R. I. Reds. High scoring cockerels. Eggs for hatching in season. **Henry Mertens, Crary, N. D.**

White Holland Turkeys, R. C. R. I. Reds. Stock and Eggs in season. **Maurice H. Bliss, Geneseo, N. D.**

EGGS FOR HATCHING, satisfaction guaranteed, Thoroughbred wide open laced, big utility, winter laying Silver Laced Wyandottes, bred for business and Indian Runner Ducks. 15 eggs $1.50; 30 $2.75; 50 $4.00.
Anthony Elm, : : Lansford, N. D.

White and Columbia Wyandottes, Light Brahmas, and S. C. White Leghorns
Over 30 years a breeder. Stock and eggs for sale. **MICHAEL K. BOYER, Box 27, Hammonton, New Jersey.**

PURE BRED S. C. W. Leghorns. Eggs for Hatching, $1.00 per 15; $4.00 per 100; or $7.00 per 200. **T. I. Martinson, Christine, N. Dak.**

FOR SALE: Rose Comb Red Eggs for sale at $1.00 per 15 eggs. **Mrs. Heidlebaugh, Pleasant Lake, N. Dak.**

ROSE COMB RHODE ISLAND REDS

Hatching eggs from my hardy northern-grown winter egg laying strain of Rose Comb Reds, $1. winter egg laying strain of Rose Comb Reds, $1.50 per 15, $3.50 per 50 or $5.00 per 100. Day-old chicks at 15 cents each in lots up to 100.
J. O. Berg, ... Hendrum, Minn.

TOULOUSE GEESE EGGS: 6 for $1.00.
Mrs. Frank Stoner, . Lansford, N. Dak

BARRED ROCKS

Dakota Strain. Bred to Lay and Win

Order eggs for hatching now. June hatched birds make the strongest chicks. Pens broken up after June 25.

PERCY BEALS, : FARGO, N. D.

Quality White Rocks

We have as good as grow. You start right with our stock or eggs.

Hatching Eggs now $1 per setting; $3 per 50; $5 per 100. Write today. **O. A. Barton, Valley City, N. D.**

every now and then, for many a disease lurks in filthy drinking vessels.

Inbreeding furnishes a seat for sickness. The stock gradually deteriorates, becomes weak in constitution, and the result is an easy victim of disease.

A brief reference to the causes of many of the most prominent diseases may prove beneficial.

Anaemia means a lack of blood. It is a condition allied to indigestion, and is caused by overcrowding, defective ventilation and poor light in the hen house, as well as from innutritious and insufficient food.

Apoplexy and vertigo are practically the same. There is a rush of blood to the head, caused by an overfat condition, hereditary tendency due to inbreeding, excitement and violent exercise by being chased, great heat, indigestion, and also by straining to lay an egg—in the latter case hens are often found dead on the nest.

Atrophy of the liver means a wasting of the liver, caused by being improperly fed or poorly cared for.

Baldness, to which class also belong white comb, scurvy or itch, is caused by foul, damp and dark houses.

Bronchitis is caused by exposure to damp or wet weather.

Catarrh is a cold in the head, caused by exposure, damp rains, poor ventilation of the house, and an unsanitary condition of the same.

Cholera—the genuine article, and of which we have very few cases in this country—is generally caused by overcrowding, bad sanitary management, and unwholesome or irregular food.

Cramps, rheumatism and leg weakness have symptoms very much alike, but the causes are different. Cramps are prevented to a certain extent by having dry houses. Rheumatism and leg weakness are caused by exposure to cold or wet, or roosting in damp, cold houses or places.

Diphtheria is generally caused by roosting or sleeping in a draft, or being confined in a damp place. The cause of ulcerated throat and canker are the same.

Indigestion is caused principally by lack of sharp grit, overfeeding, unwholesome diet, injudicious use of grain, and debilitated system.

Roup is the result of neglect or want of attention to minor diseases of the air passages, produced by colds.

Filth is a great breeder of disease. It is not only necessary that the promises be kept clean, but they must also every now and then be disinfected. Foul air, especially at night when the fowls are on the roost, will do more mischief than anything I know of. All roosts should be on a level, when placed on an incline, the fowls fight to gain the topmost perch, and those successful must the entire night breath the contaminated air that is apt to rise up to the ceiling.

Where fowls have free range at times cases of limberneck develop. This is generally caused by the fowls finding some decayed carcass like a rat, rabbit or bird, and which has become infected with maggots. Investigation of the range should be made every week. Paint skins, half unslacked lime, etc., are often carelessly thrown about the fowls eat it, and suddenly deaths from a "mysterious disease" are reported.

Laying hens are often confined to a fattening diet which has its result in a general breakdown, indigestion and liver troubles.

The first rule should be to prevent sickness; the second, to promptly treat disease with some simple remedy in the early stages; and the third, to at once destroy and burn or bury deep all cases that are stubborn and do not respond to simple, commonsense remedies.

RHODE ISLAND REDS

M. N. Hatcher, Secretary, North Dakota Rhode Island Red Club

Rhode Island Reds are a breed that was originated in the state of Rhode Island some fifty years ago. William Tripp, whose business was that of market-man, decided to build up a strain of chickens that would produce meat, and also eggs in the wintertime, when the price was high. He used several different strains of fowls and in a short time was producing hens that would lay in the wintertime and were large enough to bring a good price at the market. This new breed had unusual stamina and gradually began to spread over the country. Not a great many years ago they were almost unknown in the poultry shows, but for some time they have usually represented the largest number exhibited of any breed. Last winter at the Minneapolis show there were almost as many Reds exhibited as all other breeds put together. There are Single Combs and Rose Combs and have the same standard markings except for the Combs. A Rhode Island Red should be a brilliant red color, of as near the same shade of color all over, as possible, and the under color should also be red and free from any smoky color. There has been much discussion as to the proper shade of red, but judges are giving the dark colored birds the preference so long as they are red and their under color is clear. There are other qualifications such as red eyes, green tail, and feathers laced with black in the wings. The standard Red has a longer body than any other breed, which makes them good layers. Reds are growing very popular in North Dakota and they have come to be one of the largest number exhibited at different shows. The Rhode Island Red Club of North Dakota was organized last winter. Their purpose is to promote the breeding of more and better Reds. They are a branch of the Rhode Island Red Club of America and one dollar pays the annual dues in both clubs for one year, and each member of the club receives a year book known as "Red Hens Tales" which gives the standard qualifications for Reds and has many articles written by prominent breeders. The year book for 1915 has a series of photographs showing the feathers that Reds should have and those they should not have. The year ends May 1st, 1916 and anyone who wishes to join can do so by sending one dollar to the Secregary, whose name is given above. Their influence was felt in the shows the past summer, which had a great increase in the number of Reds exhibited. They propose to have a big rally at the North Dakota Poultry Association Show next winter in Fargo and it is safe to say that there will be from two hundred and fifty to three hundred Reds on exhibition. This show will be of unusual interest to Red breeders, for the reason that the Rhode Island Red Club of America will give two cups, one to be contested for by breeders of Single Combs and the other by Rose Comb Reds. There are many good birds in North Dakota that would be in the winning in the larger shows if they were put in condition and exhibited. If anyone wishes to ask any questions about Reds, or about the show next winter, I will be very glad to have them write me at Fargo, N. D.

Clearance Sale of Poultry

MUST REDUCE STOCK BEFORE SEPT. 1ST

This is all choice stock bred from my best show stock. Having missed only four firsts at the Valley City and Fargo shows in six exhibitions.

Buff Orpington Cock and 5 Hens.....$8
White Rock Cocks at $2, $3 and $5 each
White Rock Hens at $1.50 to $2.50 each
White Rock Cockerels and Pullets, only a few at $1.50 to $2.50 each.

Write for price on quantities.

O. A. Barton, - - VALLEY CITY, N. D.

SingleComb Rhode Island Reds

THEY WIN AND LAY

Won first, second and third on cockerels; first second and third on pullets at Fargo Fair, 1915. Birds from eggs sold by me won four out of six prizes on old birds. Will sell high class cockerels cheap, as I must make room for younger stock. All trap nested stock and bred to lay.

M. N. HATCHER

Fargo - - - North Dakota

School and Home

Miss Ura Leader,
Ruraldale, N. D.
Dear Miss Leader:

One of the best subjects with which to begin your years, work in agriculture, is that of soils. With the exceptions of mining and fishing, all the wealth produced by this country comes primarily from the soil. A thoro knowledge of the soil is essential for one who really wants to get the best results for a series of years.

I advise that you confine your study to the physical properties of the soil. So far as the farmer is concerned, the physical properties are more important than other phases of the study. The study of soil chemistry, or the composition of the soil is important. So also is the biological condition or the lower forms of life which live in the soil important. But these will usually be good if the soil is kept in good condition.

I would divide the study of soil physics into two divisions; a study of the texture and a study of the structure. The texture of the soil depends upon the size of the soil particles. The structure depends upon the arrangement of the particles into masses. The physical condition of the soil depends entirely upon the size and arrangement of the particles.

The texture can not be modified except by the addition of organic matter. The structure is easily changed. All tillage operations are performed to change the arrangement of the particles. Plowing and harrowing are done to improve the physical condition.

Some people say they cultivate their corn or potatoes. Really they cultivate the soil. The cultivation should better the soil conditions, it will not otherwise affect the crop. Of course some till the soil in order to kill weeds but this is a luxury—it ought not to be considered a necessity.

Before taking up the study of texture and structure it will be well to consider the function of the soil. We want the soil to perform a certain function. It can do its work better if in good condition than when cloddy or puddled. It is well to know the "why" of tillage.

The soil has several very important functions. The soil retains water for the growing plants. Plants are constantly using water. It is one of the essential things for plant growth.

Much of the food materials for the plants are held by the soil. Fortunately only a limited amount is soluble at any one time. Soils give up these materials as the plants remove those in solution in the soil water.

The soil furnishes a means for the plant to anchor itself. It is necessary for all plants to have their leaves in the sunlight, and an erect position offers the best exposure for the leaves.

Soils do not have as great and as rapid a change in temperature as does the air. They equalize temperatures. The soil also makes a good place for the growth and development of many of the lower forms of plant life.

The functions of the soil might be summarized by stating that one should so till the soil that the proper amount of water will be retained, food materials will be retained and liberated, and a suitable home for the bacteria be maintained.

The texture of the soil may be easily studied. A microscope which magnifies several diameters is desirable but not absolutely necessary. Examination will demonstrate the fact that soils are made up of small particles of mineral matter of varying sizes and shapes. There is also some organic matter present.

These facts may be roughly shown by shaking up a small amount of soil in a glass of water. The black or brown material which floats is organic matter. The particles which settle to the bottom of the glass quickly are comparatively large. Those particles which remain in suspension for a long time are very small.

The classification of soils is based largely upon the size of the particles. Clay soil is made up largely of very small particles. Sandy soil is composed largely of coarse particles. Loamy soils are made up of a mixture of sand and clay.

In common usage a heavy soil means one composed of small particles, and consequently one which tills with comparative difficulty. A light soil is made up of coarse particles, or is of a sandy nature. These terms as ordinarily used do not refer to the real weight of the soil.

The texture of the soil is best studied in the class room. Many simple experiments may be conducted with inexpensive apparatus. These experiments should show the relationship which exists between the size of the particles and the retention of water.

The purpose of tillage is to modify soil structure. Soils when in good condition will have the particles grouped into little masses. The structure of soils is best studied in the fields.

Some of the things which may be demonstrated to the student are: the movement of water thru dry soils, puddling soils, movement of air, and the movement of water thru different soils. It will be seen that water moves thru dry, loose soil very slowly, hence surface cultivation. Examine puddled soils and note the growth made by the crops on them. Pour water on dry and wet soils and note the results.

Stop and think of all the conditions necessary for plant growth. Crops are usually limited in growth either on account of lack of food or water. These two things are largely under the control of the farmer. His responsibility rests with those things under his control. Whether or not the crops will have sufficient water and food is determined largely by the systems of tillage which are practiced.

Successful farming is based on the proper handling of the soil. The soil is the fundamental thing in farming. Its structure or physical condition ought not to be neglected.

Cereals

Cereals comprise those crops which are grown for their edible seeds. They belong to the grass family. Belonging to a single family they have habits very similar, and their culture should be similar.

The leading cereals grown in North Dakota are: wheat, oats, barley, corn, rye, and the millets. By studying the crop statistics for the state it will be seen that almost all the cultivated land is devoted to these crops. At the present time North Dakota is a small grain state. Gradually the farmers are breaking away from this one crop system.

It is well to take up this class of crops as a group. In doing so see how many points of similarity there are between them. Is there any real fundamental difference found in the following points in growing wheat, oats, barley or rye:

1. Preparation of the soil
2. Seeding.
3. Harvesting.
4. Marketing.
5. Insect enemies.
6. Diseases.
7. Seed selection.

There are variations in the rate of seeding and in the diseases which at-

tack them, but otherwise there is little or no difference.

Bulletins have been published by this station, in which will be found all of these crops carefully treated. These bulletins should be found in the schools. They come free of charge on request. I advise that you get copies and add to your school library.

Concerning the cereals, I suggest that you take up one crop, wheat, and discuss it in detail. When completed you will find there is little to add concerning oats, barley or rye, except types and varieties. The types and varieties are discussed in the bulletins indicated.

Perhaps it will be well to take up the study of soils first. This work is best done in the fall. Samples of the grains may be procured at any time. But above all do not overlook the available sources of information.

Sincerely,

O. O. Churchill.

STORING VEGETABLES FOR WINTER

C. B. Waldron, N. D. A. C.

Vegetables can be divided into three or four different classes so far as treatment in the matter of winter storage is concerned. The vegetables, like the potato and rutabaga that hold their moisture well because of a protective covering and are not inclined to heat, can safely be stored in large bins where the temperature is above freezing. For this class of vegetables the ideal condition is a fairly moist atmosphere and a temperature as low as possible without danger of frost. If there is no disease in these vegetables such as the rot of potatoes they will carry thru the spring with very little loss.

Vegetables like beets, carrots, parsnips, etc., that readily lose their moisture soon deteriorate if stored in open bins. The only way to store these successfully is to pack them in boxes or barrels with moist sand in between the different layers of vegetables. The temperature for these vegetables should also be kept low and if the sand dries out water should be added from time to time.

Cabbage should be kept in open crates where there is free circulation of air and at the same time kept at a low temperature just above freezing in an atmosphere that is fairly moist. If kept in a warm dry atmosphere they soon wither and the leaves drop off from the stump or heart.

Onions keep best spread out in thin layers in open boxes or crates so that they may have a free circulation of air. The atmosphere should not be too moist as that induces the onions to grow. In a very dry atmosphere they lose more or less in weight, but it is safer to store under such conditions than in an atmosphere that is very moist. An ordinary cellar furnishes the ideal conditions.

While with other vegetables the temperature should be kept as low as possible without freezing, pumpkins, squash and sweet potatoes require a different treatment than the other vegetables named. They keep better in a temperature of fifty degrees or even higher and in an atmosphere that is fairly dry. Under such conditions, the squash form a hard dry shell that protects the meat from decaying as it is sure to do in a cool moist atmosphere. It is better to store these vegetables so they do not touch each other.

The storing of celery is a more difficult matter. In digging, two or three inches of the root must be left on and the plants are then set in earth directly in the cellar or in a box which is transferred to the cellar. The plants should not be taken to the cellar until there is danger of their freezing outside. The celery is sure to rot if the temperature is as high as forty-five or fifty degrees and the atmosphere moist. The ideal condition for keeping celery is in an atmosphere ranging from thirty-five to forty degrees. If the cellar or basement is too warm a part of it can be boarded off, for this purpose, so as to keep the temperature low. If the atmosphere is so dry that the celery tends to wilt it can be protected by hanging blankets over it or inverting a box over the plants. After two or three weeks the celery begins a slow growth forming new stalks at the heart at the expense of the older ones at the outside. This process keeps up until sometime during January which is about as late as celery can be profitably kept.

NEW MAP OF MONTANA ISSUED BY U. S. GEOLOGICAL SURVEY

By international agreement the United States and nearly all the other principal countries of the world in 1909 planned for the preparation of maps of the entire surface of the earth, to be published on a scale one-millionth of actual size, or about 1 inch to every 16 miles, the United States Geological Survey undertaking to prepare the United States portion. All the maps are to be uniform in shape and general appearance and are to have the same conventional signs.

As the majority of the people in this country have more use for State maps than for maps of any other kind the Geological Survey decided to utilize the data collected by publishing also maps of each State on a larger scale—about 1 inch to every 8 miles. A map of the entire United States on this scale would cover a sheet 20 by 31 feet.

The Survey has already issued 25 such State maps, the latest one being that of Montana, and this is the largest one of the series so far published. In compiling the map every available source of information has been ransacked for material, and many data never before available to the public in any form have been procured, so that the map far exceeds in accuracy any heretofore published. The map is in two sheets, each 40 by 46 inches, and is sold and delivered free by the Geological Survey for the nominal price of 45 cents.

By an inspection of this map and comparison with some others one begins to realize the great area of Montana. There are four counties in the State any one of which has a greater area than that of an even dozen States of the size of Rhode Island. The combined area of the New England States is less than half of that of Montana.

The northern line of the State is the Canadian boundary and is over 500 miles long. Fortunately it never has needed and, it is to be hoped, never will need an army to guard it.

A million people from the European nations now at war could find peaceful, happy homes in this one State alone, and its natural resources are so great that the million could support themselves in comfort and even luxury.

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for $1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

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COOKING GREEN VEGETABLES

Prepared for The North Dakota Farmer by Abby L. Marlatt, Home Economics Department of the University of Wisconsin.

If we think of vegetables in terms of the 85 per cent to 95 per cent of water diluted with color, flavor and a small amount of solids, then the price of water masquerading as vegetables seems high.

But, if we think of the need for flavor and mineral matter to induce a better appetite and keep the body in good health the purchase of the vegetables, in season, will seem less costly than tonics from the drug store.

It is most important when preparing vegetables to save the portion which gives flavor and that which provides the mineral matter needed by the body. At least 20 per cent of all iron required by the body has its source in vegetables.

Experiments have shown that flavor and mineral matter are lost in less or greater measure when these vegetables are cooked in too much water which is later thrown away. It is best to use as little water as possible in boiling green vegetables and to keep this water to be used later in soups or sauces.

The loss of mineral matter from vegetables thru boiling may be as high as 36 per cent in spinach, celery, cabbage, Brussels sprouts, cauliflower, carrots and not more than six per cent when these same vegetables are steamed.

Flavor, when its source is from a product which is readily given off in steaming, may be retained by cooking at temperatures below the boiling point. It is for this reason that peas, asparagus, celery, cucumbers, and carrots should be cooked at simmering temperature.

Strong flavor may be lessened by cooking rapidly in open vessels. This is true of cabbage, cauliflower, onion, and pepper. Cabbage may be "cooked" at the end of twenty minutes. Longer time develops strong flavor and, in hard water, may darken the color.

Those fresh green vegetables, which consist of leaves and stems may be steamed; or may be cooked without added water if heat is applied slowly, causing the water in the leaves to escape in such amounts that the plant cooks in its own juices.

Delicately flavored vegetables, as peas, string beans, squash, and rutabagas, may be served in their own juices, seasoned only by salt, pepper, and butter. Brussels sprouts are improved in flavor if cooked in meat broth made as for soup stock, or in water flavored with bouillon cube. Carrots, celery, cucumbers and summer squash may be improved in appearance and flavor by first cooking in water, then draining and covering with white sauce.

The green vegetables are cheapest in the season of the year when they are most needed by the human body. At other seasons, the expense is far beyond the benefits to be derived from their excessive use. Canned vegetables then should take their place even tho the flavor and mineral matter may not be so satisfactory.

SOIL SURVEY OF BOTTINEAU COUNTY, NORTH DAKOTA, BEING MADE.

Representatives of the Bureau of Soils, of the United States Department of Agriculture, are now at work upon a complete soil survey of Bottineau County, North Dakota. The party, it is expected, will take several months to complete the examination and mapping of the soils of the county.

The Department requests co-operation on the part of farmers and land owners with the Federal Soil Survey. They should be given facilities to make borings and sample the different soils. They are provided with credentials which will be shown upon request.

As soon as they have completed their investigations, they will make a large map showing the various kinds of soils and their location by means of colors and shading. This map will also show the location of the principal roads, schools, churches, railroads and watercourses.

Accompanying the map will be a complete report on the nature of the soils, their suitability for growing va-

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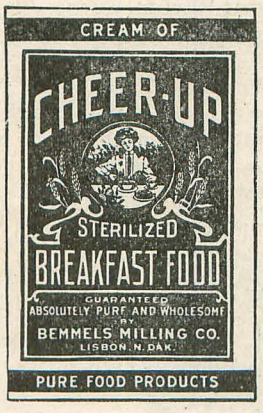

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rious crops, and suggestions for their suitability for growing various crops, and suggestions for their improvement by fertilizers, cover crops, and crop rotations. This report and the map will not be ready for circulation for some months after completion of the survey.

CARE OF THE BABY IN SUMMER

Prepared by the Children's Bureau
U. S. Department of Labor

Minor Ailments

A baby may be made uncomfortable and restless by various causes which are readily removed. Attention has already been called to the fact that babies and young children frequently suffer from thirst. They should be offered a drink of water several times a day, and particularly in hot weather. When a baby cries in the night, a drink will often quiet him, and send him to sleep.

Irritating clothing is at times responsible for the baby's fretfulness. Woolen socks, or shirts, or stiff cap strings are quite enough to spoil his comfort, even if he is well, and, in hot weather especially, a superabundance of clothing is frequently responsible for much real suffering.

Dress the baby in the lightest cotton garments and keep him as cool as possible. Do not be afraid to let him have nothing on but his diaper and one other thin garment on the very hot days.

Prickly Heat

One of the troubles from which a baby often suffers in summer is prickly heat. This ailment appears as a fine red rash usually on the neck and shoulders and gradually spreads to the head, face and arms. It is caused by overheating, due either to the hot weather or to the fact that the baby is too warmly dressed. The rash comes and goes with the heat, and causes intense itching. The remedy for it is to take off all the clothing and give the baby a sponge bath in tepid water in which common baking soda has been dissolved. Use one tablespoonful of soda to two quarts of water. Use no soap, and do not rub the skin, but pat it dry with a soft towel. After the skin is thoroly dry, dust the inflamed surfaces with a plain talcum powder.

This ailment, like all others, is more readily prevented than cured. Frequent cool baths, very little clothing, simple food and living in cool rooms, or in the open air will probably save the summer baby from much of the annoyance of prickly heat and other more serious ills.

Chafing

Fat babies are very apt to suffer from chafing, especially in hot weather. It appears as a redness of the skin in the buttocks or in the armpits, or wherever two skin surfaces persistently rub together.

Much the same treatment is required as in prickly heat. Never use soap on an inflamed skin. Instead use a soda, bran or starch bath.

Great care should be taken not to let the baby scratch the skin, when it is irritated. Sift together two parts powdered cornstarch, and one part boric acid, and use it freely on the chafed places. Remove wet or soiled diapers at once. Wash and dry the flesh thoroly, then dust the powder freely between the legs.

Milk Crust

This is a skin disease affecting the scalp, in which yellowish, scaly patches appear on the baby's head. These patches should be softened by anointing them with olive oil or vaseline at night, and the head washed with warm water and castile soap in the morning.

If the crust does not readily come away, repeat the process until the scalp is clean. Never use a fine comb nor the finger nails to remove the crusts, as the slightest irritation of the skin will cause the disease to spread further. The scales will usually disappear after a few days of careful treatment.

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Household Hints

By Aunt Maggie

Mildew on leather will disappear if rubbed with a piece of flannel and vaseline.

When cleaning a spot with gasoline, if a blotting paper is placed under the material, the gasoline will not leave a ring.

I had a number of feather pillows, with ticks, which were wearing treacherously thin. I did not dare attempt the awful task of transferring the down to new ticks till I had seen how easily it was done by a very clever woman. She carefully ripped the mouth of the old pillow, and basted the edge of it rather closely with strong thread, over the mouth of the new tick. Then she turned the old pillow upside down, someone holding the new tick where it was basted. Not a feather was lost. In less than five minutes the basting was being ripped and the mouth of the new pillow was firmly sewed together. The old lady told me she put the feather filling from an old bed into a new tick by the same method, or made the old bed into pillows by ripping as much of the tick as matched in length the new pillow tick, pulling them apart when the pillow was full enough.

EGGS

A noted chef claims that eggs can be cooked in over two hundred ways. This being true it surely is not creditable to any housewife to simply alternate between fried, poached and scrambled until John would be more than human if he did not rebel and become tired of the very sight of eggs. From time to time we have given ways of cooking eggs and now add a few more taken from an exchange.

Salt hardens eggs and should not be added until they are cooked.

Eggs should never be actually boiled, as it stiffens the whites into a leathery indigestible mass. Place the eggs in water that has been allowed to boil and then drawn back from the hottest part of the stove. If preferred soft let them remain ten minutes. They will then be coagulated, but soft, tender and easily digested. If preferred hard they may remain even twenty-five minutes without becoming indigestible.

Eggs for an omelet, or to scramble should only be beaten enough to blend the yolks and whites.

Do not stir scrambled eggs until they commence to set, and then gently lift them up and over that the flakes may be large, light and tender. Take them up the instant they are done, as a little delay hardens and spoils them.

If you have no egg poacher shape the eggs neatly with a biscuit cutter before removing them from the pan.

Eggs poached in chicken broth, thinned chicken, or other meat gravy, that has been flavored with a few drops of lemon juice, and then laid on buttered toast, are delicious for breakfast.

Cold ham or other lean meat chopped fine makes another appetizing dish with eggs. Allow a tablespoonful of bread crumbs for every cup of meat; season with salt and pepper, heat with a little butter and just enough water or stock to moisten, and stir well together. Spread slices of toast with the meat and lay a poached or baked egg on top of each piece.

To bake eggs butter patty tins and set in the oven a minute to heat. Break an egg in each pan and return to the oven six or eight minutes. Season with salt and pepper and a little butter when ready to serve.

Omelet and scrambled eggs may be varied by the addition of finely chopped ham, veal or other cold meat, chopped parsely, mushrooms, or canned corn, peas or tomatoes. Heat the meats or canned vegetables; spread over half the omelet when ready to turn, and add to scrambled eggs as soon as they commence to stiffen.

For eggs a-la-creme beat six eggs just enough to mix the yolks and whites, add one cup of milk and beat together lightly; pour into a buttered dish and bake until set. Turn out carefully into a hot platter, pour one cupful of tomato sauce around and serve hot.

Circles of toast spread with a preparation of meat as above and a poached or baked egg on top are made especially appetizing by pouring a cupful of tomato sauce around them.

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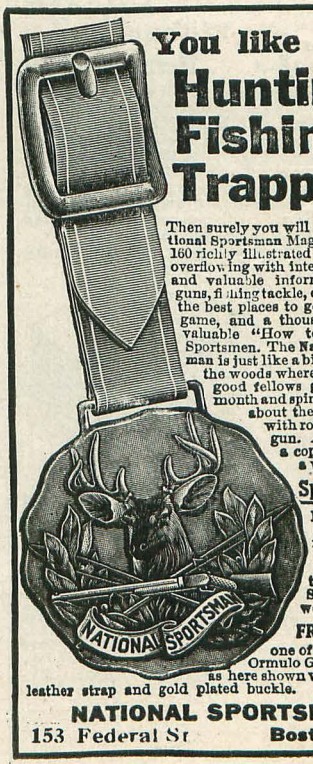

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Seasonable Receipts

Edited by Mrs. Sadie Baird.

SOME RHUBARB RECIPES

Preserved Rhubarb

Peel and cut up the rhubarb, boil with a very little water till reduced to a pulp, allow one pound of sugar, one ounce of sweet almonds (blanched and chopped) and half a lemon cut in three slices, to every pound of pulp; boil slowly for an hour, remove the lemon peel, and put the preserves in jars.

Rhubarb with Figs

Take six pounds of rhubarb (weighed after peeled and cut, a quarter of a pound of candied lemon peel, and one of figs; cut the rhubarb, figs, and lemon peel quite small, place the peel and figs over the rhubarb, cover with five pounds moist sugar, and let stand until the next day. Then boil slowly together for one hour.

Baked Rhubarb

Slice as much rhubarb as required, and put in an earthen dish, sprinkle it liberally with sugar in layers, and add half a chopped lemon. Bake slowly until soft. Let it stand until cold.

Rhubarb Shortcake

Make a nice short cake and use the following as filling: Two cups of rhubarb stewed and sweetened, and one cupful of dates stewed and chopped. Let the dates cook a few minutes with the rhubarb. Turn this on each cake while both cake and filling are hot.

Rhubarb Tart

Do not peel the rhubarb, merely wash it and wipe it dry. Line a pie dish with puff paste, fill it up with very small pieces of the rhubarb, add sugar to sweeten, the grated peel of half a lemon, and the juice of two oranges. Bake rather slowly. When done cover with sweetened whipped cream.

THE LIGHTEST OF BISCUITS

Two cupfuls of flour, one-quarter teaspoonful of salt, four rounding teaspoonfuls of baking-powder. Mix, chop into this two full tablespoonfuls of butter (or lard), then add gradually one cupful of milk. Roll out the dough, cut in small biscuits, place in greased pan and bake in a quick oven for twelve minutes. The dough should be very soft.

BAKED CALF'S LIVER

Wash and wipe dry one calf's liver, then slash and score inside. Have ready a well-seasoned bread dressing, using quite a bit of onion. Pack into the liver, then tie with cord or skewer with wooden toothpicks, putting several pieces of bacon over the openings. Put in the baking-pan, pour over it a little hot water, and bake at least an hour in a hot oven, basting frequently. Serve hot with a garnish of parsley.

NUT BREAD FOR AFTERNOON TEA

Here is a recipe for a nut bread which is delicious. Four cupfuls of flour, four teaspoonfuls of baking-powder, one-quarter cupful of sugar and one teaspoonful of salt. Sift together then add two cupfuls of sweet milk, one large cupful of nuts and lastly fold in the stiffly beaten whites of two eggs. Let rise forty-five minutes and bake one hour. Try this with cocoa and jam for your afternoon tea-table.

PEANUT AND CHEESE SANDWICHES

Shell and skin sufficient fresh-roasted peanuts to make a small cupful when ground. Sprinkle lightly with salt and mix with enough cream cheese to hold them together. Spread on squares of thin bread. Very nice with salad.

CHEESE SANDWICHES

Mix together grated cheese and yolks of hard-boiled eggs and add a few drops lemon juice for sandwich filling.

CANNED TOMATOES

Pour boiling water over one peck ripe tomatoes. Let stand a few minutes, then peel and slice crosswise into preserving kettle. Cook for a few minutes in their own juice, adding one tablespoonful salt to a large kettle full. Pour in cans and seal.

SALTED CUCUMBER PICKLES

Make a brine of good salt strong enough to float an egg and then have extra salt in bottom of jar or keg. Wash small cucumbers and place in brine, adding more every morning or when you can get them. Keep under brine with a cover upon which place a rock to hold down. In the winter take up and freshen and fix in any way preferred. These will keep indefinitely.

OLIVE OIL PICKLES

About twenty-five cucumbers sliced across thin, one cupful pure olive oil, five cents white mustard seed, 5 cents brown mustard seed, one tablespoonful celery seed, one quart cider vinegar. Put layer of cucumber, then layer of seeds and salt and so on until jar is filled; then pour over vinegar and oil.

DILL PICKLES

Lay cucumbers in a strong brine over night. Pack solid in two quart jars, placing dill with them. Scald vinegar to which a little pepper has been added. Pour boiling hot over pickles and seal.

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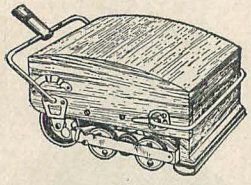

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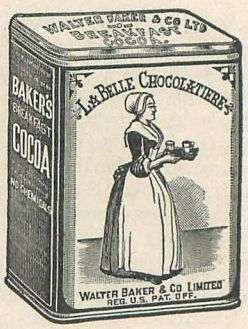

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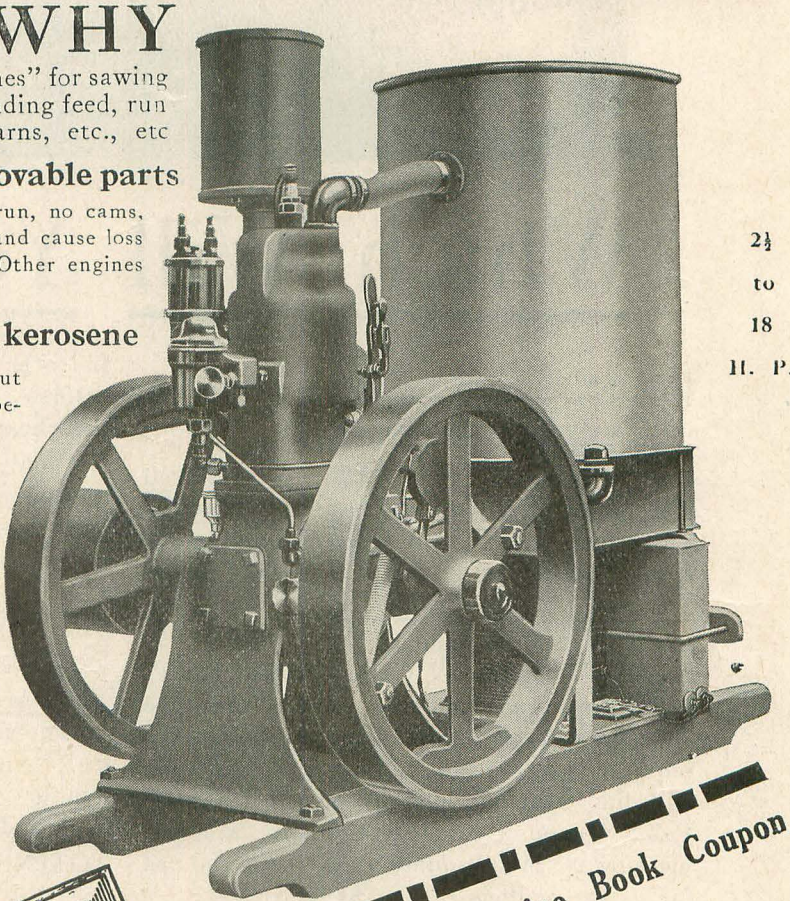

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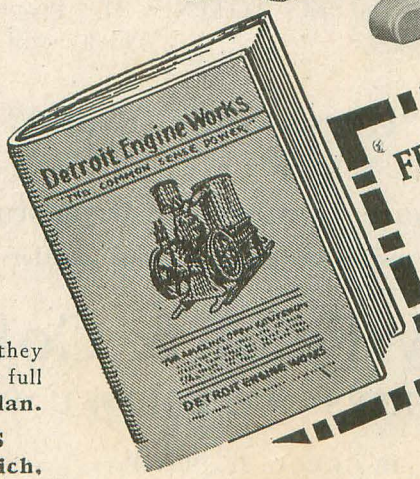

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